

C-16
cont

efficient at retaining the temperature within the freshness chamber than a standard refrigerator and the device disclosed in the '490 patent."

On page 24, lines 23 through 28 please amend the paragraph as follows:

Q17

"Power consumption was measured over the thirteen hour testing period to compare the power required by a standard refrigerator and a refrigerator equipped with the thermal barrier of the present invention. Referring now specifically to FIG. 5 the results demonstrate that the standard refrigerator consumed 1.24 kWh while the refrigerator equipped with the thermal barrier of the present invention consumed only 1.09 kWh over the thirteen hour test period. Consequently, the refrigerator equipped with the thermal barrier of the present invention utilized 12.10% less power than the standard refrigerator."

REMARKS

/ New claims 21-40 have been added.

/ Claims 1-20 have been deleted.

/ New Figures 6 -10 and Figure descriptions have been added to show every feature of the invention specified in the claims as requested by the Examiner.

/ The abstract has been amended by deleting the phrases: "In accordance with the present invention" and "is disclosed" as requested by the Examiner.

/ Amendments have been made to the specification on pages 6, 12, 13, 14 15 and 17 as requested by the Examiner

/ Amendments have been made to the specification on pages 8 to correct grammatical errors; on pages 9, 10, 12 and 13 to comply with 37 C.F.R 1.84(p)(5) and to pages 23 and 24 and to provide the correct figure references.

Applicant believes that none of the amendments above add new matter to the specification.

PATENTABILITY ARGUMENTS

A. The 35 U.S.C. § 112 Second Paragraph
Rejections Should be Withdrawn
Because The Specification Concludes
With Claims Distinctly Claiming The
Subject Matter Of The Invention

The Examiner states that claims 1-20 are rejected under 35 U.S.C. 112, second paragraph as being indefinite and failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Applicant respectfully disagrees.

Claims 1-20 have been deleted consequently Applicant respectfully requests that the Examiner remove these rejections.

B. Invention The 35 U.S.C. § 102(b)
Rejections Should be Withdrawn
Because Prior Art Does Not Anticipate
The Displacement Apparatus of the
Present Invention

The Examiner has rejected claims 1, 3-7, 9, 15, 16, 18, 19 and 20 under 35 U.S.C. § 102(b) as being unpatentable over Layne (U.S. Patent 4,429,548). The Examiner states that the invention of Layne discloses a device having a thermal barrier (Figure 1) comprising a translucent material (column 32-34) curtain (16 and 18 collectively), having vertical slits dividing the curtain into strips (14); an attachment device (24, 26, 28, and 34 collectively) for securing the curtain to an upper surface of the cabinet (10) with a mounting means (26 and 28) defining a bracket and connecting rod (at 34) which is rotatably affixed to the mounting means (Figure 3), a displacement apparatus (at 30) for displacing at least one flap from alignment with the adjacent flaps (Figure 3) (i.e. left flap of 16 out of alignment with right flap of 18), defining a protrusion (Figure 2); and curtain having stabilizing adapters (in 20) defining weights. The Examiner further states Layne is also considered to teach a kit comprising a thermal barrier and a method step of reducing the temperature in a cabinet. Applicant respectfully disagrees. It should be noted that curtain (16 and 18) are panels of vinyl strips grouped and sewn together with a fabric border (20) (see claim 1) and are not individual flaps as in Applicant's invention.

The Examiner further rejects claim 17 under 35 U.S.C. § 102(b) as being unpatentable over Layne in view of the rejections stated above. The Examiner further states that the invention of Layne discloses a thermal barrier (Figure 6) comprising a translucent

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material (column 32-34) curtain having vertical slits dividing the curtain into strips (14); an attachment device (62 and 52) for securing the curtain to the sides of the cabinet; a displacement apparatus (56 and 58 – Figure 8) for displacing at least one of the flaps from alignment with the adjacent flaps (Figure 6).

Applicant has deleted claims 1 and 16 through 20. Therefore, the rejection based on 35 U.S.C. 102(b) is moot and Applicant respectfully requests that the Examiner removes this rejection. ✓

C. The 35 U.S.C §103(a) Rejection Should Be
Withdrawn Because The Claimed Invention Is
Not Obvious In View Of the Prior Art.

The Examiner has rejected claims 1, 3-7, 9, 15, 16, 18, 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Layne and Finkelstein et al. (U.S. Patent 5,520,237). The Examiner states that the invention of Layne discloses a barrier as indicated above in the section dealing with 35 U.S.C. § 102 rejections. The Examiner further states that the Finkelstein device teaches a thermal barrier, which comprises flaps that are overlapping and that it would have been obvious to provide a barrier as in Layne with overlapping flaps. Applicant respectfully disagrees. — why?

The Examiner further rejected claim 8 under 35 U.S.C. §113(a) as being unpatentable under Layne alone. The Examiner states that although the connecting rod in Layne does not disclose an adjustable feature, it would be an obvious design choice to one of ordinary skill in the art. Applicant respectfully disagrees. → why?

Applicant has deleted claims 1, 16 and 18 through 20. Therefore, the rejection based on 35 U.S.C. 103(a) is moot and Applicant respectfully requests that the Examiner removes this rejection.

CONCLUSION

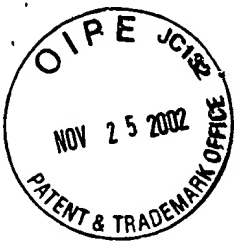
In view of the above arguments Applicant has amended the claims and demonstrated that the invention as claimed satisfies the statutory requirements for patentability. Applicant respectfully requests that the Examiner issue an allowance of the claims.

Respectfully submitted,

Date: 25 November 2002


David B. Waller

Registration No. 43,978



#3

OFFICE ACTION RESPONSE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: John Parrott
Serial No.: 09/902,910
Filed: 10 July 2001
Group Art Unit: 3634
Examiner: J. E. Novosad

RECEIVED

NOV 27 2002

GROUP 3600

For: "A THERMAL BARRIER FOR A CABINET"

VERSION WITH MARKINGS TO SHOW CHANGES MADE
AS REQUIRED UNDER 37 C.F.R. §1.121(b)(1) AND §1.121(b)(2)

IN THE ABSTRACT:

Please amend the abstract as follows:

"[In accordance with the present invention a] A thermal barrier for a cabinet having a door storage area [is disclosed] comprising a curtain having vertical slits dividing the curtain into flaps; an attachment device for securing the curtain within the cabinet; and a displacement apparatus for displacing at least one of the flaps from contact with adjacent flaps when the cabinet is closed allowing air within the cabinet to circulate to the door storage area.

IN THE SPECIFICATION:

Please amend the specification as follows:

On page 6, lines 16 through 21 please amend the paragraph as follows:

"In yet another embodiment the displacement apparatus comprises an activation shaft connected to the connecting rod such that when the cabinet is closed the activation

shaft activates the connecting rod rotating the connecting rod causing the displacement of at least [on] one flap from alignment with said adjacent flaps."

On page 8, lines 11 through 14 please amend the paragraph as follows:

"The securing technique for placement of the anti-convection curtain disclosed in the '490 patent interferes with the seal between the door and the cabinet and may allow the door to remain partially open."

On page 9, lines 10 through 19 please amend the paragraph as follows:

"In addition, when the door is closed the air within the freshness chamber is compressed and pushes outward allowing them to become pinched between the door and cabinet. Like the securing technique, the pinched flaps weaken the magnetic seal between the door and the cabinet and may allow refrigerated air to escape and may also prevent the door from closing. In addition pinching may cause [the] permanent damage to the curtain. The result is a curtain that no longer hangs properly allowing air to escape from the freshness chamber."

On page 9, lines 27 through 31 please amend the paragraph as follows:

"The curtain disclosed in the present invention does not interfere with the magnetic seal between the cabinet [(10)] (1) and the door because the curtain of the present invention is positioned on the interior of the cabinet covering the freshness chamber (10). Therefore the seal is not compromised with the present invention."

On page 10, line 31 to page 11, line 7 please amend the paragraph as follows:

"In accordance with the present invention a thermal barrier for a cabinet [(10)] (1) having a door storage area comprising a curtain (12) having vertical slits dividing the curtain into flaps; an attachment device (14) for securing the curtain within the cabinet [(10)] (1); and a displacement apparatus (16) for displacing at least one of the flaps from alignment with adjacent flaps when the cabinet [(10)] is closed allowing air within the [cabinet] freshness chamber (10) to circulate to the door storage area."

On page 12, lines 5 through 20 please amend the paragraph as follows:

"The curtain (12) may have one or more vertical slits dividing the curtain into flaps. The vertical slits may extend from the base of the curtain (12) to about the top of the curtain or may extend to the top of the curtain (12) dividing the curtain into separate distinct flaps. The flaps preferably are of the same length extending from the top of the cabinet [(10)] (1) to the base of the cabinet [(10)] (1) such that the chamber formed interferes with the circulation of ambient air with the temperature-controlled air within the [cabinet] freshness chamber (10). The flaps may have the same or differing widths ranging from about 2 inches to about 18 inches, preferably from about 3 inches to about 8 inches and most preferably about 4 inches to about 5 inches. The flaps may be aligned side by side or they may overlap. If the flaps overlap they may form an exterior flap layer and an interior flap layer."

On page 12, line 23 to page 13, line 9 please amend the paragraph as follows:

"The attachment device (14) may be any device known to those skilled in the art that may be used to secure the curtain to the inner chamber of the cabinet [(10)] (1). In another configuration, the attachment device (14) may be composed of two or more parts that allow the curtain (12) to be affixed within the inner chamber such as for example a rod that supports the curtain (12) and at least one bracket for mounting the rod within the cabinet [(10)] (1). In the first configuration the curtain [(10)] (12) may be provided with connectors that allow the user to select and apply the desired connector to the curtain (12) and cabinet [(10)] (1). For example providing the curtain (12) with self-laminating [Velcro] VelcroTM strip so that the user may attach one section of the strip to the upper portion of the curtain (12) near the top edge and the other section of the strip to the top wall of the cabinet [(10)] (1). Once the Velcro® sections are in place the curtain may be hung within the cabinet [(10)] (1) by re-associating the [Velcro] VelcroTM sections."

On page 13, lines 10 through 24 please amend the paragraph as follows:

"In the other configuration the attachment device (14) comprises at least one mounting means and a connecting rod. The mounting means may be a bracket comprising one continuous piece that is aligned parallel to the connecting rod or may comprise two components one at each end of and generally perpendicular to the connecting rod. When the bracket is one continuous piece, the bracket may be

constructed so that it is adjustable to fit a variety of cabinet [(10)] (1) widths. For example the bracket may be composed of two sections wherein one section is slidably affixed within the other section similar to the telescoping curtain rods used in the window covering industry. Alternatively the two sections may be provided as two interconnecting pieces that may be secured in a desired length by nut and bolt or by clip."

On page 13, lines 25 through 36 please amend the paragraph as follows:

"The one continuous piece bracket may be secured to the top wall of the cabinet [(10)] (1) or to the opposing sidewalls by a variety of methods such as screws, rivets, [Velcro] VelcroTM, or adhesive. When two brackets are used they may be affixed one on each of two opposing side walls, preferably as close as possible to the top of the inner chamber and in close proximity to the door of the cabinet [(10)] (1). The bracket may be constructed of any rigid material able to withstand a variety of temperature extremes as well as the weight of the curtain during such temperature extremes. Preferably the bracket is made of metal or temperature resistant polymer."

On page 14, lines 5 through 33 please amend the paragraph as follows:

"The connecting rod may be any rigid elongated shaft on which a curtain (12) or curtain flaps may be affixed, that may be mounted to the mounting means and allows at least one flap to be displaced from alignment with its adjacent flaps when the cabinet is closed. The connecting rod may be of fixed length or adjustable in length. If the

connecting rod is adjustable it may be, for example, provided as two interconnecting pieces that may be secured in a desired length by nut and bolt or by push lock. The connecting rod may be mounted in the mounting means by a variety of methods known to those skilled in the art. For example, the mounting means may provide a cradle, clip or loop such that each end of the connecting rod may be placed into a cradle or attached to a clip or inserted into a loop. When in position the connecting rod may be stationary or may rotate. Alternatively, the connecting rod may be affixed to the mounting means and the mounting means may rotate. The curtain (12) or curtain flaps may be fastened to the connecting rod directly or it/they may be provided with an adapter on one end that may be slipped onto the connecting rod. For example an adapter may be created by folding over the top of the curtain or curtain flap to form a loop that may slip over the connecting rod. If the flaps or curtain (12) are fastened to the connecting rod so that they may be fastened directly to the rod for example by screw or adhesive, or they may be affixed to an adapter on the connecting rod such [a] as for example a metal plate."

On page 15, line 23 to page 16 line 19 please amend the paragraph as follows:

"When the displacement apparatus (16) is a protrusion strip, any device that is able to be mounted to the cabinet door and able to push against at least one flap such that it is substantially displaced from contact with its adjacent flaps is preferable. In one configuration when the flaps of the thermal barrier overlap the protrusion strip pushes against the flaps of the interior flap layer. If the cabinet door comprises at least one shelf, the

protrusion strip may be mounted to the shelf such that when the door is closed the protrusion strip displaces at least one curtain flap. The protrusion strip may be mounted to the cabinet door by a variety of methods including adhesive, snaps or [Velcro] VelcroTM. The protrusion strip may be made of a variety of materials that maintain their structural integrity over a wide range of temperature variations, is/are able to displace a curtain flap without causing substantial structural alteration of the flap and able to withstand the force exerted by curtain. For example the protrusion strip may be made of a polymer or rubber. Preferably the strip is constructed of plastic and the protrusions constructed of rubber. The protrusion may be a set height or may be adjustable. A preferred height is one that allows the protrusion to contact at least one flap and displace it from alignment with adjacent flaps, preferably the height is from about one half inch to about three inches, preferably from one inch to two inches, and most preferably from about one and one half inches to about one and three quarters inches."

On page 17, line 21 to page 18 line 11 please amend the paragraph as follows:

"Correspondingly an electronic device that comprises a light sensor [maybe] may be utilized to rotate the connecting rod. For example when a refrigerator door is opened the light inside the refrigerator illuminates, when this occurs the light sensor activates an electronic motor that rotates the connecting rod aligning the curtain flaps. Alternatively, the sensor [maybe] may be activated by the absence of light such that when the cabinet door is closed the sensor registers the absence of light and the

electronic motor is activated rotating the connecting rod and displacing at least one curtain flap. In these configurations one or more of the flaps may be connected directly to the connecting rod and thereby displaced when the connecting rod is rotated. The remaining flaps comprise adapters that allow the connecting rod to rotate freely without rotating these remaining flaps. The preferred form is for the flaps to alternate such that only every other flap is fastened directly to the connecting rod. The remaining flaps may be looped over the connecting rod such that when the connecting rod rotates the flaps fastened to the connecting rod rotate and are displaced while the remaining flaps do not rotate with the rod."

On page 23, line 32 to page 24, line 14 please amend the paragraph as follows:

"Further analysis was performed of hour twelve to determine the efficiency of each device in retaining the set temperature within the freshness chamber. Hour twelve comprised eight pulls at seven and one half-minute increments. Referring more specifically now to FIG. [3] 4 the highest temperature within each seven and one half-minute cycle was averaged to determine the average high obtained by each device. Results show that the standard refrigerator had an average high of 50.8°F, the device disclosed in the '490 patent had an average high temperature of 43.7°F, and the present invention had an average high of 35.2°F. This study demonstrates that the present invention is more efficient at retaining the temperature within the freshness chamber than a standard refrigerator and the device disclosed in the '490 patent."

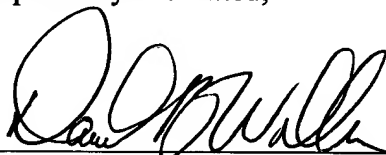
On page 24, lines 23 through 28 please amend the paragraph as follows:

"Power consumption was measured over the thirteen hour testing period to compare the power required by a standard refrigerator and a refrigerator equipped with the thermal barrier of the present invention. Referring now specifically to FIG. [4] 5 the results demonstrate that the standard refrigerator consumed 1.24 kWh while the refrigerator equipped with the thermal barrier of the present invention consumed only 1.09 kWh over the thirteen hour test period. Consequently, the refrigerator equipped with the thermal barrier of the present invention utilized 12.10% less power than the standard refrigerator."

Applicant believes that none of the amendments add new matter to the specification and respectfully requests that the Examiner accept these amendments.

Respectfully submitted,

Date: 25 November 2002



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